

### **DETAILED ACTION**

This Office action is in response to applicant's amendment filed on 3/5/2010.

Claims 1-28 and 42-44 have been cancelled.

Claims 29-41 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/5/2010 has been entered.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 6,688,066 to Cottier et al. in view of US Pat. No. 5,673,524 to Gailey.

Claim 29:

Cottier et al. disclose in Figs. 2-4, a layered structural element for use in marine vessels, comprising two substantially parallel sheets 11/15 spaced apart to define a void 17 there between, wherein the void 17 is filled with a layer of cementitious material

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having a density less than 1200 kg/m<sup>3</sup> (col. 8, lines 15-18), said element further comprising means 51 (Fig. 4) for increasing bonding properties or connecting properties between the metal sheets and the cementitious layer. Cottier et al. disclose the basic structures for the layered structural element as stated but do not disclose expressly the parallel sheets are made out of metal. Gailey discloses a reversible composite building panels 100/200/300 (see Figs. 1-7), each of the panels comprising two substantially parallel sheet 110/111; 210/211; 310/311 are made out of sheet metal such as aluminum or other metal (see col. 2, lines 38-40). In view of Gailey, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Cottier et al. panels for metal skins in order to enhance integrity and stronger panels.

Claim 30:

Wherein the means 51 for increasing bonding properties or connecting properties are dowels extending from the inside surface of the metal sheets 11/15 into the cementitious layer, an adhesive layer applied to the inside surface of the metal sheets, increasing the roughness of the inside surface of the metal sheets, or any combination of such means.

Claim 31:

Further comprising one or more elongated, hollow channel bodies 4 arranged in the cementitious layer (Fig. 3).

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Wherein the channel bodies 4 are arranged to be load bearing when the structural element is employed as a structural element in a marine vessel.

Claim 33:

Wherein spacers 5 are affixed to the channel bodies 4, such spacers arranged to center the channel bodies in the cementitious layer between the metal sheets.

Claim 34:

Wherein the channel bodies 4 are closed at each end, and adapted for use as a compartment for storing liquids.

Claim 35:

Cottier et al. disclose the basic structures for a layered structural element as stated above but do not disclose expressly wherein a first of said metal sheets is corrugated, the second of said metal sheets is planar, wherein the second metal sheet is arranged against the corrugated sheet so as to form a plurality of elongated channels, said channels being filled with the cementitious material. Gailey discloses a reversible composite building panels 100/200/300; each of the panels comprising a first and a second metal sheets 110/111; 210/211; 310/311 and one of the panels is corrugated. In view of Gailey, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Cottier et al. one of the sheets is corrugated in order to enhance integrity for the layered structural element.

Claims 36-41:

Cottier et al. in view of Gailey disclose the basic layered structural element as stated but do not disclose the layered element is for marine vessel constructed or hull or

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bulkheads or decks; the channel bodies are utilized as conduits for cables or piping and compartments are used to store ballast water or fuel. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentia the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham, 2 USPQ F.2d 1647 (1987)*.

### ***Response to Arguments***

Applicant's arguments with respect to claims 29-41 have been considered but are moot in view of the new ground(s) of rejection.

Also, in regarding to applicant argues that the prior art Cottier et al. structural panel can not be used in marine vessels. The argument has been fully considered but it is not persuasive because as set forth; it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentia the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham, 2 USPQ F.2d 1647 (1987)*.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Chi Q. Nguyen whose telephone number is (571) 272-6847. The examiner can normally be reached on Monday-Friday from 7:30 am-4:00 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached at (571) 272-6777.

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/C. Q. N./  
Examiner, Art Unit 3635

/Richard E. Chilcot, Jr./  
Supervisory Patent Examiner, Art Unit 3635